

1. (Three Times Amended)

A method for predictively assessing one or more

characteristics of wood fibre or wood pulp to be produced from a solid wood member, wherein the one characteristic is average fibre length, comprising the steps of:

causing sound to be transmitted through the solid wood member;

determining the velocity of the transmitted sound through the solid wood member; and

predictively assessing a measure of the average fibre length of wood fibre or wood pulp to

be produced from the solid wood member by reference at least in part to the

determined sound velocity through the solid wood.

3. (Three Times Amended)

A method for predictively assessing one or more

characteristics of wood fibre or wood pulp to be produced from a solid wood member having one end and another end longitudinally spaced from the one end along the length of the solid wood member, wherein the one characteristic is average fibre length, comprising the steps of:

placing a sensing means capable of detecting sound in the solid wood member in contact

with or within sensing distance of one end of the length of the solid wood member;

placing a second sensing means capable of detecting sound in the solid wood member in

contact with or within sensing distance of another end of the length of the solid wood

member,

causing a sound wave to be transmitted in the length of the solid wood member from one end

to the other end;

detecting the sound at each end of the length of the solid wood member via the sensing

means and determining the velocity of the transmitted sound in the wood; and

predictively assessing a measure of average fibre length of wood fibre or wood pulp to be produced from the solid wood member by reference to stored information on average fibre length versus sound velocity through the wood.

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4. (Three Times Amended) A method for predictively assessing one or more characteristics of wood fibre or wood pulp to be produced from a solid wood member having one end and another end longitudinally spaced from the one end along the length of the solid wood member, wherein the characteristic is average fibre length, including the steps of:

placing means capable of detecting both an original and a reflected sound wave in contact with or within sensing distance of one end of a length of a solid wood member;
causing a sound wave to be transmitted in the length of the solid wood member;
detecting a reflected echo of the sound wave in the solid wood member;
determining the velocity of the sound wave in the solid wood member; and
predictively assessing a measure of average fibre length of wood fibre or wood pulp to be produced from the solid wood member at least in part by reference to stored information on average fibre length versus sound velocity through the wood.

8. (Three Times Amended) A method of segregating solid wood members for use in pulp and paper or fibre board production including determining a measure of average fibre length of individual solid wood members using the method of claim 1.

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11. (Three Times Amended) Apparatus for predictively assessing a measure of average fibre length of wood fibre or wood pulp to be produced from a solid wood member comprising:

a sensor capable of detecting the velocity of a sound wave through a solid wood member along the length thereof; and

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① a computer comprising stored information on suitability of wood for production of wood fibre or wood pulp versus sound velocity through wood and arranged to determine a measure of the average fibre length of the wood fibre or wood pulp to be produced from the solid wood member by reference to said stored information on the at least one fibre characteristic versus detected velocity through the solid wood member.

26. (Twice Amended) A method of segregating solid wood members for use in pulp and paper or fibre board production including determining the average fibre length of individual solid wood members using the method of claim 3.

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① 27. (Twice Amended) A method of segregating solid wood members for use in pulp and paper or fibre board production including determining the average fibre length of individual solid wood members using the method of claim 4.

28. (Twice Amended) A method of segregating solid wood members for use in pulp and paper or fibre board production including determining the average fibre length of individual solid wood members using the method of claim 5.

29. (Twice Amended) Apparatus for predictively assessing at least one characteristic of wood fibre or wood pulp to be produced from a solid wood member, wherein the characteristic is average fibre length, comprising:

a sensor capable of detecting both an original and a reflected sound wave in a solid wood member along the length thereof; and